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NMAM INSTITUTE OF TECHNOLOGY, NITTE

(An Autonomous Institution affiliated to VTU, Belagavi)

VI Sem B.E. (CSE) Mid Semester Examinations - I, February 2016

13CS604 – SOFTWARE TESTING AND AUTOMATION

Duration: 1 Hour

Max. Marks: 20

Note: Answer any **One** full question from each Unit.

Unit – I

1. a) Explain different naming styles in a program.
b) Analyze how binary search algorithm better than sequential search.
2. a) Explain different interface principles.
b) Describe markov chain algorithm and build its data structures.

Marks	BT*
5	L*2
5	L4
4	L4
6	L2

Unit – II

3. a) List and explain strategies to tune the code.
b) Determine strategies to speed up computer programs.
4. a) Explain how a bottleneck was removed from critical program in our local environment.
b) Describe guidelines to write portable code in the context of programming language.

6	L1
4	L5
5	L4
5	L2

BT* Bloom's Taxonomy, L* Level

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

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VI Sem B.E. (CSE) Mid Semester Examinations - II, March 2016

13CS604 – SOFTWARE TESTING AND AUTOMATION

Duration: 1 Hour

Max. Marks: 20

Note: Answer any **One** full question from each Unit.

Unit – I

- | | |
|--|---------------|
| 1. a) List the SEI capability maturity model levels. Briefly explain the CMM levels with respect to testing.
b) Give any three historical definitions of testing. | 7 L*1
3 L2 |
| 2. a) Explain the six essentials of software testing.
b) Define the term risk. Analyze the concept of risk management in detail. | 6 L4
4 L4 |

Unit – II

- | | |
|--|--------------|
| 3. a) Identify the sample items for code checklist.
b) Explain the basic features of verification methods. | 4 L1
6 L4 |
| 4. a) Write the IEEE/ANSI definition of validation. Explain the validation strategies.
b) Determine the three critical success factors for implementing verification. | 7 L4
3 L5 |

BT* Bloom's Taxonomy, L* Level

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NMAM INSTITUTE OF TECHNOLOGY, NITTE

(An Autonomous Institution affiliated to VTU, Belagavi)

Sixth Semester B.E. (CSE) (Credit System) Degree Examinations
April – May 2016

13CS604 – SOFTWARE TESTING AND AUTOMATION

Duration: 3 Hours

Max. Marks: 100

Note: Answer **Five full** questions choosing **One full** question from each Unit.

Unit – I

- | | | | |
|-------|--|-------|-----|
| 1. a) | List different naming styles in a program. Explain with examples. | Marks | BT* |
| b) | Explain the concept of hash tables. | 8 | L2 |
| c) | Describe guidelines to user interface design. | 4 | L2 |
| 2. a) | Explain resource management in interface design. | 8 | L2 |
| b) | Why programming style is important? Name and explain different programming styles. | 6 | L4 |
| c) | Write C routines to perform sequential search in a list. | 10 | L3 |
| | | 4 | L4 |

Unit – II

- | | | | |
|-------|---|---|----|
| 3. a) | Describe the techniques to tune the code for reducing the run time. | 6 | L4 |
| b) | Explain the Timing and Profiling in performance tuning of the programme. | 7 | L4 |
| c) | Discuss the technique to compute the estimated run time of the programme. | 7 | L4 |
| 4. a) | Compare the programming tools to process regular expressions. | 7 | L4 |
| b) | List the Good clues , easy bugs and explain them with examples. | 7 | L1 |
| c) | Justify the role of language in making the programme portable. | 6 | L6 |

Unit – III

- | | | | |
|-------|--|---|----|
| 5. a) | Explain six essentials of software testing. | 6 | L2 |
| b) | Write a short history of software testing. | 6 | L2 |
| c) | What are the benefits of start testing early? List out any six different historical definition of testing. | 8 | L1 |
| 6. a) | Explain software development technologies (SDT) dotted-U model with neat diagram. | 8 | L6 |
| b) | Explain SEI process maturity level 3 with activity 5. | 8 | L2 |
| c) | What is Testware? Explain it. | 4 | L2 |

Unit – IV

- | | | | |
|--------|---|----|----|
| 7. a) | Define Verification. Explain the basic features and key elements of Inspections and Walkthroughs. | 10 | L2 |
| b) | Discuss in detail the three critical success factors for implementing Verification. | 10 | L3 |
| 8. a) | Define Usability Testing. Explain Usability test process and types of usability test. | 10 | L2 |
| b) | Define System Testing. List and Explain the goals of System Testing. | 10 | L2 |
| 9. a) | Determine the basic building elements of structural design. | 6 | L5 |
| b) | Briefly explain test organization in Quality assurance and development. | 8 | L4 |
| c) | Identify several generic code verification check list. | 6 | L1 |
| 10. a) | Discuss the different Software Engineering standards. | 6 | L2 |
| b) | Define usage testing. List its advantages. | 6 | L1 |
| c) | Analyze the concept of software measures and practices benchmark study. | 4 | L3 |
| d) | Explain the key Software testing standards. | 4 | L4 |

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VI Sem B.E. (CSE) Mid Semester Examinations - I, February 2017

14CS604 – SOFTWARE TESTING AND AUTOMATION

Duration: 1 Hour

Max. Marks: 20

Note: Answer any One full question from each Unit.

Unit – I

- a) Explain different guidelines to write expressions and statements in a program. 4 L*2
 - b) Compare lists with arrays. Write 'C' code to:
 - I. Insert new node at end of list
 - II. To perform sequential search in lists.6 L4
-
- 1. a) Explain different interface principles. 5 L2
 - b) How do you write best comments in a program? Explain. 5 L4

Unit – II

- 1. a) What are performance bottlenecks in computer systems? Explain with example. 4 L2
 - b) Determine strategies to speed up computer programs. 6 L5
-
- 4. a) Analyze how do you debug programs with "good clues, easy programs". 4 L4
 - b) List and explain strategies to tune the code. 6 L4

Bloom's Taxonomy, L* Level

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NMAM INSTITUTE OF TECHNOLOGY, NITTE
(An Autonomous Institution affiliated to VTU, Belgaum)
B.E. (CSE) Mid Semester Exams

**STATE OF TECHNOLOGY, NITTE
(An Autonomous Institution affiliated to VTU, Belagavi)
B.E. (CSE) Mid Semester Examination**

VI Sem B.E. (CSE) Mid Semester Examinations - II, March 2017

Note: Answer any One full

Max. Marks: 20

Unit - I

- ## Unit – I
- a) List and explain the SEI capability maturity model (CMM) levels. Explain the level 3, activity 5 related to testing in SEI CMM.
 - b) What is configuration management? Explain.

 - a) List and explain major deliverables in the form of documents in software development life cycle.
 - b) What is testware? What is the role of testware in testing? Explain.

Marks BT*

7 L*4
3 12

6 L2
4 L4

7 L4
3 L5

5

7 L4
3 L5

Bloom's Taxonomy, L* Level

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NMAM INSTITUTE OF TECHNOLOGY, NITTE
 (An Autonomous Institution affiliated to VTU, Belagavi)
Sixth Semester B.E. (CSE) (Credit System) Degree Examinations
 April - May 2017

14CS604 – SOFTWARE TESTING AND AUTOMATION

Duration: 3 Hours

Note: 1) Answer **Five full** questions choosing One full question from each Unit.
 2) Write the diagrams wherever necessary.

Max. Marks: 100

Unit – I

- | | Marks | BT* |
|---|-------|-----|
| a) Explain the guidelines to write the expressions and statements in a program with examples. | 6 | L*2 |
| b) Discuss the best practices in writing the comments in the program with examples. | 5 | L2 |
| c) Explain the concept of consistency and idioms with examples. | 9 | L2 |
| a) Explain Comma Separated Values with examples. | 6 | L2 |
| b) Compare the Sequential and Binary search techniques case by case. | 7 | L4 |
| c) Justify how Quick sort is the fastest sorting technique with examples. | 7 | L6 |

Unit – II

- | | | |
|---|---|----|
| a) What O Notation and discuss the O Notation for sorting and searching techniques. | 7 | L2 |
| b) Discuss binary search tree technique with an example. | 6 | L2 |
| c) What is user interface? How can we create good user interface. | 7 | L2 |
| a) List and explain strategies to tune the code. | 7 | L2 |
| b) Explain the role of debugging tools with examples. | 6 | L4 |
| c) Determine strategies to speed up computer programs. | | |

Unit – III

- | | | |
|--|---|----|
| a) Discuss the attributes of good testers. | 6 | L2 |
| b) Define Risk in Software product and its Identification and Mitigation strategies. | 7 | L2 |
| c) Discuss "U model" for integration of software development and test process with a neat diagram. | 6 | L6 |
| a) Justify how testing tools helps the testers. | 8 | L2 |
| b) Explain the Frameworks for Software Testing. | 6 | L1 |
| c) What is Testware? What is its role in software testing? | | |

Unit – IV

- | | | |
|---|---|----|
| a) Discuss the formal structured types of Verification and their pros and cons. | 5 | L2 |
| b) Explain the critical factors for implementing verification. | 7 | L2 |
| c) Explain White box methods for internals based testing. | 7 | L2 |
| a) Discuss the properties of good requirement specifications. | 7 | L2 |
| b) Discuss the activities in verifying the code ad sample items in code check list. | 7 | L2 |
| c) Discuss the overview of Master Test Planning & Risk Management. | 6 | L2 |

Unit – V

- | | | |
|---|---|----|
| a) Explain the software tools for reviews and inspections. | 6 | L2 |
| b) List the dangers in wrong testing structure. | 7 | L1 |
| c) Explain the approaches to organize test functions. | 7 | L2 |
| a) Discuss the structural Design Elements in testing. | 7 | L2 |
| b) Discuss the criteria for selecting the right approach for testing. | 7 | L2 |
| c) Discuss the findings of Software measures and benchmark study. | 6 | L2 |

* Bloom's Taxonomy, L* Level

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NMAM INSTITUTE OF TECHNOLOGY, NITTE
 (An Autonomous Institution affiliated to VTU, Belagavi)
Sixth Semester B.E. (CSE) (Credit System) Degree Examinations
 Make up / Supplementary Examinations – July 2017
14CS604 – SOFTWARE TESTING AND AUTOMATION

Duration: 3 Hours

Note: Answer **Five full** questions choosing One full question from each Unit.

Max. Marks: 100

Unit – I

- | | Marks | BT* |
|--|-------|-----|
| a) What are the benefits of comments in computer programs? Explain guidelines to write comments in the program. | 6 | L*2 |
| b) List and explain different interface principles. | 6 | L2 |
| c) Differentiate lists from arrays. Write 'C' code for following:
i. Insert new node at end of list ii. To perform sequential search in lists. | 8 | L4 |
| d) Explain guidelines to write expressions and statements in a program with examples. | 6 | L2 |
| e) Write 'C' code for non-recursive look up for name in tree. | 4 | L4 |
| f) Explain different naming styles in a program with examples. | 6 | L2 |
| g) Write short note on hash tables. | 4 | L2 |

Unit – II

- | | | |
|---|---|----|
| a) Explain timing and profiling in performance tuning of computer programs. | 6 | L4 |
| b) Formulate strategies to tune the code. | 9 | L6 |
| c) How to handle computer programs with 'good clues, easy bugs'. Explain. | 5 | L4 |
| a) With example, explain performance bottlenecks in computer program. | 6 | L4 |
| b) Analyze different strategies to speed up computer programs. Explain. | 8 | L4 |
| c) Write short note on following with respect to debugging:
i. Last Resorts ii. Non-reproducible bugs | 6 | L2 |

Unit – III

- | | | |
|---|---|----|
| a) With neat diagram, explain Software Development Technologies (SDT) dotted – U model. | 8 | L4 |
| b) What is testware? Why it is important to maintain. | 6 | L3 |
| c) What are attitudes of good tester? | 6 | L2 |
| a) List and explain essentials of software testing. | 6 | L2 |
| b) What is risk? Identify any six risk associated with software testing. Explain. | 8 | L4 |
| c) Justify 'Testing should start early'. Differentiate between verification and validation. | 6 | L6 |

Unit – IV

- | | | |
|--|---|----|
| a) Differentiate between inspection and walkthroughs. | 6 | L4 |
| b) Explain critical success factor for implementing verification. | 6 | L2 |
| c) Design a checklist to verify the code. | 8 | L6 |
| a) Which documents are verified during software development? Explain. | 8 | L4 |
| b) Briefly explain different black-box methods for function based methods. | 6 | L2 |
| c) List and explain white-box methods for internal based tests. | 6 | L2 |

Unit – V

- | | | |
|---|---|----|
| a) Role of any two software tools used in reviews and inspection. | 6 | L4 |
| b) Main useful measurements taken during/after testing. | 8 | L2 |
| c) building elements of structural design. | 6 | L5 |
| d) Execution and evaluation tools. | 6 | L2 |
| e) Explain. | 6 | L4 |
| f) Approaches to organizing the test function. | 8 | L5 |